Breaking up is hard to do, but now is the time to do it:
A review of DISRUPTING CLASS

Rich Haglund,[1] July 2008

The potential exists for disruptive innovations to help us leave no child left *bored*. As teachers use innovative tools to facilitate student-led, differentiated instruction, students may become lifelong learners, ready for successful work, education and citizenship.

> If we acknowledge that all children learn differently, then the way schooling is currently arranged – in a monolithic batch mode system where all students are taught the same things on the same day in the same way – won't ever allow us to educate children in customized ways. We need a modular system.[2]

In DISRUPTING CLASS, Professor Clayton Christensen, and his coauthors Michael B. Horn and Curtis W. Johnson, outline a vision and describe a path to engage all students in learning through disruptive change – a concept made famous by Christensen's earlier book, THE INNOVATOR'S DILEMMA.[3] Just as Christensen used innovation as a lens through which to examine the state of public education, I am going to use the Tennessee State Board of Education's Master Plan as a lens for reviewing DISRUPTING CLASS.

Vision

Just as the Master Plan envisions post-secondary success for all Tennessee children, Christensen argues that since children learn in different ways, we need to educate in customized ways. Thus, "the decision-making process for what is adopted in schools" should not be centralized. Instead, online user networks "will democratize development and purchase decisions to the end users in the system – students, parents, and teachers. Smart people will do smart things if we just enable them to do so."[4] The state of education and the state of technology makes now a prime time for those "smart people" to do "smart things" for all children.

> Few reforms have addressed the root cause of students' inability to learn. And most attempts have not been guided by an understanding of the root reasons for

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[2] Clayton M. Christensen et al., DISRUPTING CLASS: HOW DISRUPTIVE INNOVATION WILL CHANGE THE WAY THE WORLD LEARNS 225 (2008).

[3] Clayton M. Christensen, THE INNOVATOR'S DILEMMA (2003).

[4] *Id.* at 225-226.

> why the system functions as it does or how to predictably introduce innovation into it. Without this guidance, we've been destined to struggle. This also means, however, that we now have an opportunity for great progress.[5]

Effective Leaders

School leaders hoping to implement changes that will dramatically increase the outcomes for students "have to use the tools of power and separation." In order to do this, "school committees and government officials need to view themselves as not being responsible for the specific schools that exist in their jurisdictions; rather they are responsible for educating the children in those areas."[6]

Effective leaders face significant challenges. Because "the way product performance is defined in the disruptive market is antithetical to the sorts of improvements that are required to succeed in the original market," incumbent leaders will have the hardest time making the changes needed.[7] In the school setting, for example, leaders may be compelled to make decisions that make a school or a system look good for federal or state accountability purposes, at the cost of individual students' access to resources that fit their individual learning styles.

Effective leaders must actively manage the process of implementing disruptive change. Otherwise, the organization (the school district, a particular school) "will shape every disruptive innovation into a *sustaining* innovation – one that fits the processes, values and economic model of the existing business – because organizations *cannot* naturally disrupt themselves."[8] This is why, Christensen notes, the introduction of computers (and significant money spent on computers and related equipment) has not, by itself, "changed schools."[9] Leaders must resolve "system-level choices" before "team members become encumbered with functional details."[10]

The question for school and district leaders and teachers to ask when implementing policies should not be "'simply 'what's implementable and what works,' but what is implementable and what works for whom, where, when, and why?'"[11] Christensen argues that the paradigm for most education research has to change in order to make it easier for teachers and school leaders to answer that question.

> Just as researchers in medicine are working to understand disorders by their causes as opposed to their symptoms in order to move toward precision medicine,

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[5] *Id.* at 225.

[6] *Id.* at 226.

[7] *Id.* at 50-51.

[8] *Id.* at 75.

[9] *Id.*

[10] *Id.* at 207.

[11] *Id.* at 172, quoting Meredith I. Honig, ed., *New Directions in Education Policy Implementation: Confronting Complexity* (New York: State University of New York Press, August 2006), p. 2.

> education research must move toward understanding what works from the perspective of individual students in different circumstances as opposed to what works best on average for groups of students or groups of schools.[12]

Leaders must ensure that team members agree not only on where the organization is going, but on how to get there. "With a common language and a common framing of the problem, tools like strategic planning, measurement systems, and salesmanship can be effective."[13] This was borne out, I think, by what happened in education reform at a state level in Tennessee in 2007 and 2008. Because Dr. Nixon, Assistant Commissioner Susie Bunch and other Department and Board staff toured the state in 2006 and 2007, talking to school and business leaders, framing the problem in a common way, the State legislature and other policy makers agreed on the changes that needed to be made for high school reform.

Because incumbent leaders lack "the motivation to focus sufficient resources on the disruption,"[14] innovations are more likely to be successful if they are delivered through a new, "disruptive" method.[15] Christensen explains that just at the time when resources must be committed to a particular innovation, those innovations appear "unattractive to the leaders because their best customers can't use them, and they promise lower profit margins. Therefore, investment dollars are always more likely to go toward next-generation sustaining innovations instead of disruptive ones."[16] Also, if the innovative applications are delivered through a system of "suppliers to customers whose definitions of quality and profitability were honed in the established way of doing things—the disruption won't fly unless it conforms to the rest of the players' needs and expectations."[17]

"A classic sign that something is not disruptive," Christensen notes, "is that the incumbent organizations are motivated to try and quash it. A case in point that chartered schools have not been disruptive, even if they are created as *online virtual* schools, comes from many quarters."[18]

Effective Teachers

Using technology in a "disruptive" fashion will improve students' internal motivation for learning *while* improving working conditions for the teacher. "Building students' intrinsic motivation through student-centric learning" will allow "teachers to give students much more

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[12] DISRUPTING CLASS 162.

[13] *Id.* at 192.

[14] *Id.* at 50.

[15] *Id.* at 133.

[16] *Id* at 50..

[17] *Id.* at 133.

[18] *Id.* at 219, note 3.

individual attention."[19] These innovations will be offered first to students for whom the alternative is nothing, so they are not a threat to the current configuration of education delivery.[20]

This theme courses through the book: "School committees' and administrators' responsibility is to educate the children in the geographic expanse over which they preside and do it well. *It is not to protect and defend the particular schools that previously had been built in their area.*"[21] Christensen gives credit to efforts of the last ten years to develop and require standards and accountability, and the attempts to increase the supply of quality education through chartering laws. However, Christensen notes, "it is a mistake to confuse either the permission to create new schools or setting rigorous standards with learning. What matters is what happens in *class*, whether physical or virtual."[22]

Educators have done remarkably well in their efforts to essentially rebuild a plane in mid-flight. During the last 100 years we have "moved the goalposts" in education, changing the stated goals of our schools from giving rudimentary education in the one-room schoolhouse, to offering comprehensive courses and activities at high schools for all students, to eliminating poverty (which Christensen suggests is the purpose of legislation in the spirit of the No Child Left Behind Act).[23]

Christensen concludes with this advice related to helping teachers do more in a time of reduced or strained budgets: "As you face budget crises and difficulty finding teachers, don't solve these problems by doing less in the existing system. Solve it by facilitating disruption."[24]

Rigorous, Relevant Curriculum

The State Board's Master Plan states:

> A rigorous and relevant P-12 curriculum requires all students to become lifelong learners and critical thinkers. A rigorous, relevant curriculum integrates standards, instruction and assessment. The curriculum clearly communicates requirements for mastery of subjects throughout Pre-K, elementary and secondary school. Courses remain relevant, rigorous and responsive to our changing world.

Disruptive innovations support rigorous, relevant curricula by "helping students learn in ways that their brains are wired to learn *and* by allowing teachers to give students much more individual attention."[25] Technological tools can also now verify student mastery continuously.

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[19] *Id.* at 73.

[20] *Id.* at 74.

[21] DISRUPTING CLASS 194 (emphasis added).

[22] *Id.* at xii.

[23] *Id.* at 62-63.

[24] *Id.* at 227.

[25] *Id.* at 73.

"In other words, assessment and individualized assistance can be interactively and interdependently woven into the content-delivery stage, rather than tacked on as a test at the end of the process."[26]

Elementary and secondary schools can thus provide curricula that are, like those provided at the Massachusetts Institute of Education, "team taught, group learned, and assessed experientially."[27] The necessary tools will not, Christensen argues, be "'pushed' into classrooms through a centralized selection process;" rather they will be pulled into use through self-diagnosis – by teachers, parents and students."[28]

Christensen relates the story of Professor Steven Spear, who compared the production methods of Toyota and Chrysler as a doctoral student. As part of his study, he worked temporarily at each company's assembly line, installing front passenger seats. At Chrysler, Spear's training consisted of a brief demonstration of how to install the seat. Then he was put to work. Because he wasn't able to complete the installation in time, the trainer had to stop the assembly line. He was given 28 seconds to install the seat, but needed an hour to install just four seats.[29]

At Toyota, however, Spear was shown the first of seven steps to installing the front seat. He was told that once he had mastered the first step, he would be shown the second step. Only after he had mastered all seven steps would he be placed on the assembly line to install seats.

Currently, even after failing exams, students are promoted to the next grade. This happens, because, as Christensen points out, "moving on is inherent in the model of monolithic instruction."[30] But, as the instructors at Toyota pointed out to Spear, "It makes no sense for us to teach you subsequent steps if you can't do the prior ones correctly."[31]

The disruptions Christensen claims will lead to engaging all students in learning and preparing them to succeed in the global economy will not occur through an attack on the existing market. Instead, disruptive innovations thrive by offering an alternative to those for whom the current alternative is nothing. Disruptive innovations "must go around and underneath the system. This is how disruption drives affordability, accessibility, capability, and responsiveness."[32]

The "nonconsumers" for whom disruptive innovation has the most potential include:

- students wanting to take a course for which the current school does not have a teacher
- courses that a school cannot currently offer because of resource allocation (e.g., art, music, specialized history courses)

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[26] *Id.* at 111.

[27] High Tech High principal Larry Rosenstock, quoted in DISRUPTING CLASS at 215.

[28] *Id.* at 134.

[29] *Id.* at 108-109.

[30] *Id.* at 108.

[31] *Id.* at 109.

[32] *Id.*

- students who are homebound because of physical conditions that do not allow them to participate in the regular school setting
- homeschoolers
- students seeking credit recovery

Sufficient Resources

Christensen explains the dilemma and the solution that solves two problems at once:

> While costs for school bus fuel rise, health-care insurance premiums soar, and buildings wear out, the big money still goes to pay the teaching and administrative staff. As the public stiffens in its resistance to paying more each year for what seems like the same service, what can educators do, particularly in the classroom where most of the expense lies? Add another row of paying customers (sometimes that's exactly what's done—a form of "labor productivity" increase that is anathema to school professionals)? . . . [33]

Usually the efforts to improve the output of education production has focused on teachers. The use of technology to improve output has also focused on the "technology of teacher-instruction":

> What would you have the teacher do: Skip every other chapter? Talk twice as fast? If instead we focused on the "listener" and thought about connecting the student directly with information through digital electronic technology, would that necessarily degrade the quality of the learning experience? Or might that disintermediation, the shift of work to the student, actually enhance it?[34]

Christensen predicts that "user networks" of students and parents, and then teachers will emerge with access to software tools so easy to use that the users will "pull" these technologies into classrooms.[35] "These instructional tools will look more like tutorial products than courseware."[36] The products will determine the shape of the organization, rather than the other way around.[37]

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[33] *Id.* at 116, note 18.

[34] *Id.*

[35] *Id.* at 134.

[36] *Id.*

[37] *Id.* at 201.